

IN THE CLAIMS:

Please amend the claims as shown below. The status of the claims after amendment will be as follows:

1. (cancelled)

2. (cancelled)

3. (original) A solder ball made of a lead-free solder which comprises, by atomic percent, 3% - 6% of Ag, 1% - 4% of Cu, 0.01% - 2% of Co, 0% - 4% of P, and a balance of Sn.

4. (original) A solder ball as claimed in claim 3 wherein the content of P is 0.04% - 4%.

5. (cancelled)

6. (currently amended) A method of forming ~~soldering~~ solder bumps comprising placing solder balls as claimed in claim 3 on a substrate and then heating the substrate to melt the solder balls and form them into solder bumps secured to the substrate.

7. (cancelled)

8. (original) A substrate arrangement comprising a

substrate for a BGA package and a plurality of solder bumps formed on the substrate from solder balls as claimed in claim 3.

9. (canceled)

10. (original) A BGA package comprising a substrate, a semiconductor chip mounted on the substrate, and a plurality of solder bumps formed on the substrate from solder balls as claimed in claim 3.

11. (new) A solder ball as claimed in claim 3 wherein the lead-free solder consists essentially of, by atomic percent, 3% - 6% of Ag, 1% - 4% of Cu, 0.01% - 2% of Co, 0.04% - 4% of P, and a balance of Sn.

12. (new) A solder ball as claimed in claim 3 wherein the lead-free solder consists of, by atomic percent, 3% - 6% of Ag, 1% - 4% of Cu, 0.01% - 2% of Co, 0.04% - 4% of P, and a balance of Sn.